ABSTRACT

The present invention provides a fluorine-containing cyclic compound represented by general formula (1):

$$R^2$$
 R^3 CF_3 CF_3

wherein R^1 represents a halogen atom, and R^2 and R^3 each represents hydrogen or a hydrocarbon group. The abovementioned hydrocarbon group is a straight-chain, branched or cyclic hydrocarbon group having 1 to 25 carbon atoms or an aromatic hydrocarbon group, and may contain a halogen atom, an oxygen atom, a nitrogen atom or a sulfur atom. Further, a fluorine-containing polymerizable monomer derived from the above-mentioned fluorine-containing cyclic compound, a fluorine-containing polymer compound obtained by polymerization or copolymerization using the above-mentioned compound or monomer, further a resist material and a pattern forming process using the abovementioned polymer compound are also disclosed. According to the invention, there is provided the polymer compound suitable for a resist material having high transparency in a wide wavelength region from an ultraviolet region to a

near-infrared light region, high adhesion to a substrate, film forming properties, high etching resistance and a high glass transition point at once, particularly for a photoresist material in a vacuum ultraviolet wavelength region. Further, the pattern forming process using the polymer compound is suitable for the formation of a high-resolution pattern form.